Organometallic Chemistry

SYNTHESIS OF LATE TRANSITION METAL CATALYSTS FOR OLEFIN POLYMERIZATION REACTIONS

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Olefin polymerization catalysts have gained much recognition in recent years. Specifically, transition-metal catalysts have been prepared and shown to allow control of various polymer properties. The purpose of this experiment is to synthesize single site catalysts for olefin polymerization reactions. For experimental experience and research enlightenment, we conducted a literature experiment using commercially available 2,6-diacetylpyridine and 2,6-diisopropylaniline to make a ligand that was then treated with iron (II) chloride to afford the desired catalyst. Initial studies produced low yields. However, modifications to the addition sequence afforded excellent yields of the desired catalyst that is higher than the yield reported in the literature. Based on the results of this summer research we will expand our studies to novel late transition metal catalysts for olefin polymerization reactions.